

Amendments to the Claims: This listing of claims will replace all prior versions, and listings, of claims in the application

Listing of Claims:

1. (Currently Amended) A process assessment tool for assessing a load a manufacturing process for an industrial product puts on the environment, said process assessment tool comprising:

(a) a database for inputting and storing data of a first environmental load corresponding to each energy source, whose consumption produces the first environmental load;

(b) a data input unit, into which data of conditions of said manufacturing process for the industrial product is input;

(c) a data processing unit ~~for calculating a second environment load said manufacturing process for the industrial product produces by~~ using the data entered into said data input unit and the data of the first environmental load stored in said database for calculating a second environmental load in each step of said manufacturing process producing the industrial product, the second environmental load produced when said each energy source consumed in said each step of said manufacturing process; and

(d) a data output unit for outputting a result said data processing unit calculates.

2. (Original) The process assessment tool as defined in Claim 1, wherein the energy source is at least one of primary energy sources including natural gas, heavy oil, light oil, lamp oil, gasoline, coal, and wood.

3. (Original) The process assessment tool as defined in Claim 1, wherein the energy source is at least one of secondary energy sources including electrical power and town gas, the data of the first environmental load is collected based on one of:

i) energy supplier basis; and

ii) energy service area basis.

4. (Original) The process assessment tool as defined in Claim 3, wherein the data of the first environmental load is collected based on:

(i) power source data collected based on one of energy supplier basis and energy service area basis; and

(ii) data of a third environmental load based on each power source.

5. (Currently Amended) A process assessment tool for ~~assesses~~assessing a load a manufacturing process for an industrial product puts on the environment, said process assessment tool comprising:

(a) a database for inputting and storing data of a first environmental load produced by consumption of a material;

(b) a data input unit, into which an amount of consumption of a necessary material for production of the industrial product is entered;

(c) a data processing unit ~~for calculating a second environment load the manufacturing process produces, wherein~~ using the data entered into said data input unit and the data of the first environmental load stored in said database are used for calculating a second environmental load that each step of the manufacturing process produces when the material is consumed in said each step of the manufacturing process; and

(d) a data output unit for outputting a result said data processing unit calculates.

6. (Original) The process assessment tool as defined in Claim 1, wherein the first environmental load includes data of total energy consumed through stages from mining to use of the energy source.

7. (Original) The process assessment tool as defined in Claim 5, wherein the first environmental load includes data of total energy consumed through stages from mining to use of the energy source.

8. (Original) The process assessment tool as defined in Claim 1, wherein the first environmental load includes total amount of at least one of environmental load materials, the environmental load materials include carbon dioxide (CO₂), nitrogen oxides (NO_x), and sulfur oxides (SO_x), and are produced through stages from mining to use of the energy source.

9. (Original) The process assessment tool as defined in Claim 5, wherein the first environmental load includes total amount of at least one of environmental load materials, the environmental load materials include carbon dioxide (CO₂), nitrogen oxides (NO_x), and sulfur oxides (SO_x), and are produced through stages from mining to use of a raw material of the material.

10. (Original) The process assessment tool as defined in one of Claim 1 and Claim 5, wherein said data output unit further shows calculation results for each process, which constitutes said manufacturing process, in a visual form.

11. (Original) The process assessment tool as defined in Claim 10, wherein said data output unit further shows a second environmental load increasing step by step by undergoing said each process in a cumulative graph.

12. (Original) The process assessment tool as defined in Claim 10, wherein said each process are divided into classes, said data output unit further shows a second environmental load in a split graph, each part area of the split graph is proportional to amount of the second environmental load of each of the classes.

13. (Original) The process assessment tool as defined in Claim 10, wherein said data output unit further shows ratios of a plurality of second environmental loads produced in said each process vs. total amount of environmental loads in respective manufacturing process in the graph independently.

14. (Currently Amended) A method for a process assessment for an industrial product assessing a load a manufacturing process puts on the environment, ~~by using a database storing data of an environmental load corresponding to each energy source, whose consumption produces the environmental load,~~ said method comprising the steps of:

storing data in a database of a first environmental load corresponding to each energy source whose consumption produces a first environmental load;

[[a)] entering a condition of said manufacturing process for the industrial product;

[[b)] calculating a second environmental load that each step of said manufacturing process produces when said each energy source is consumed in said each step of said manufacturing process, with the condition and data of ~~a~~ the first environmental load stored in said database; and

[[c)] displaying a result of said calculating step ~~(b) calculates.~~

15. (Original) The process assessment method as defined in Claim 14, wherein the energy source is at least one of primary energy sources which comprises natural gas, heavy oil, light oil, lamp oil, gasoline, coal, and wood.

16. (Original) The process assessment method as defined in Claim 14, wherein the energy source is at least one of secondary energy sources which comprises electrical power and town gas, the data of the first environmental load is constructed on one of:

- i) energy supplier basis; and
- ii) energy service area basis.

17. (Original) The process assessment method as defined in Claim 14, wherein the data of the first environmental load is constructed by: (i) power source data collected based on one of energy supplier basis and energy service area basis; and (ii) data of a third environmental load, wherein the data is constructed on power source basis.

18. (Currently Amended) A method for a process assessment for an industrial product assessing a load a manufacturing process puts on the environment, ~~by using a database storing data of an environmental load produced when a material is consumed,~~ said method comprising the steps of:

storing data in a database of a first environmental load corresponding to each energy source whose consumption produces a first environmental load;

~~[[a)]~~ entering an amount of consumption of a necessary material for production of the industrial product;

~~[[b)]~~ calculating a second environmental load that each step of said manufacturing process produces when the material is consumed in said each step of the manufacturing process, with said amount of consumption of the material and data of ~~at~~ the first environmental load stored in said database; and

~~[[c)]~~ displaying a result of said calculating step (b) ~~calculates.~~

19. (Original) The process assessment method as defined in Claim 14, wherein the first environmental load includes data of total energy consumed through stages from mining to use of the energy source.

20. (Original) The process assessment method as defined in Claim 18, wherein the first environmental load includes data of total energy consumed through stages from mining to use of the energy source.

21. (Original) The process assessment method as defined in Claim 14, wherein the first environmental load includes total amount of at least one of environmental load materials, the environmental load materials include carbon dioxide (CO₂), nitrogen oxides (NO_x), and sulfur oxides (SO_x), and are produced through stages from mining to use of the energy source.

22. (Original) The process assessment method as defined in Claim 18, wherein the data of the first environmental load includes total amount of at least one of environmental load

materials, the environmental load materials include carbon dioxide (CO₂), nitrogen oxides (NO_x), and sulfur oxides (SO_x), and are produced through stages from mining to use of a raw material of the material.

23. (Currently Amended) The process assessment method as defined in one of Claim 14 and Claim 18, wherein said displaying step ~~(e)~~ further shows calculation results for each process, which constitutes said manufacturing processes, in a visual form.

24. (Currently Amended) The process assessment method as defined in Claim 23, wherein said displaying step ~~(e)~~ further shows a second environmental load in a cumulative graph, the second environmental load increasing step by step by undergoing said each process.

25. (Currently Amended) The process assessment method as defined in Claim 23, wherein said each process ~~are~~is divided into classes, said displaying step ~~(e)~~ further shows a second environmental load in a split graph, each part area of the split graph is proportional to amount of the second environmental load of each of the classes.

26. (Currently Amended) The process assessment method as defined in Claim 23, wherein said displaying step ~~(e)~~ further shows a ratios of a plurality of the second environmental loads produced in said each process ~~vs.~~versus the total amount of environmental loads in respective manufacturing processes in the graph independently.

27. (Currently Amended) A computer readable storage medium containing program instructions for operating a computer to perform a method for a process assessment, wherein said method assesses a load a manufacturing process puts on the environment ~~by using a database storing data of an environmental load corresponding to each energy source, whose consumption produces the environmental load~~, said method comprising the steps of:

storing data in a database of a first environmental load corresponding to each energy source where consumption produces the first environmental load;

[[a)] entering a condition of said manufacturing process for the industrial product;

[[(b)]] calculating a second environmental load that each step of said manufacturing process produces when said each energy source is consumed in said each step of said manufacturing process, with the condition and data of the first environmental load stored in said database; and

[[(c)]] displaying a result of said calculating step ~~(b) calculates~~.

28. (Original) The computer readable storage medium as defined in Claim 27, wherein the energy source is at least one of primary energy sources which comprises natural gas, heavy oil, light oil, lamp oil, gasoline, coal, and wood.

29. (Original) The computer readable storage medium as defined in Claim 27, wherein the energy source is at least one of secondary energy sources which comprises electrical power and town gas, the data of the first environmental load is constructed on one of:

- i) energy supplier basis; and
- ii) energy service area basis.

30. (Currently Amended) The computer readable storage medium as defined in Claim 27, wherein the data of the first environmental load is ~~determining~~determined on a basis of: (i) power source data collected based on one of energy supplier basis and energy service area basis; and (ii) data of a third environmental load, wherein the data is constructed on power source basis.

31. (Currently Amended) A computer readable storage medium wherein ~~said~~a method assesses a load that a manufacturing process for ~~an~~a industrial product puts on the environment ~~by using a database storing data of an environmental load produced when a material is consumed~~, said method comprising the steps of:

storing data in a database of a first environmental load produced when a material is consumed;

[[a)] entering an amount of consumption of a necessary material for production of the industrial product;

[[b)] calculating a second environmental load that each of said manufacturing process produces when the material is consumed in said each of the manufacturing processes, with the amount of consumption of the necessary material and data of the first environmental load stored in said database; and

[[c)] displaying a result of said calculating step ~~(b) calculates~~.

32. (Original) The computer readable storage medium as defined in Claim 27, wherein said computer makes said program perform a method for a process assessment, wherein the first environmental load includes data of total energy consumed through stages from mining to use of the energy source.

33. (Original) The computer readable storage medium, as defined in Claim 31, wherein the first environmental load includes data of total energy consumed through stages from mining to use of the energy source.

34. (Original) The computer readable storage medium as defined in Claim 27, wherein the first environmental load includes total amount of at least one of environmental load materials, the environmental load materials include carbon dioxide (CO₂), nitrogen oxides (NO_x), and sulfur oxides (SO_x), and are produced through stages from mining to use of the energy source.

35. (Original) The computer readable storage medium as defined in Claim 31, wherein the first environmental load includes total amount of at least one of environmental load materials, the environmental load materials include comprises carbon dioxide (CO₂), nitrogen oxides (NO_x), and sulfur oxides (SO_x), and are produced through stages from mining to use of a raw material of the material.

36. (Currently Amended) The computer readable storage medium as defined in ~~none~~ of Claim 27 and Claim 31, wherein said displaying step ~~(e)~~ further shows calculation results for each process which constitutes said manufacturing processes, in a visual form.

37. (Currently Amended) The computer readable storage medium as defined in Claim 36, wherein said displaying step ~~(e)~~ further shows a second environmental load increasing step by step by undergoing said each process in a cumulative graph.

38. (Currently Amended) A computer readable storage medium as defined in Claim 36, wherein said each process is divided into classes, said displaying step ~~(e)~~ further shows a second environmental load in a split graph, each part area of the split graph is proportional to amount of the second environmental load of each of the classes.

39. (Currently Amended) A computer readable storage medium as defined in Claim 36, wherein said displaying step ~~(e)~~ further shows ratios of a plurality of second environmental loads produced in said each process ~~vs.~~ versus total amount of environmental loads in respective manufacturing processes in the graph independently.